



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/761,015

01/20/2004

Aaron A. Lockhart

PO-7845C/MD-02-189-C

1871

157 7590 10/18/2007  
BAYER MATERIAL SCIENCE LLC  
100 BAYER ROAD  
PITTSBURGH, PA 15205

EXAMINER

MCCLENDON, SANZA L

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

10/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/761,015	Applicant(s) LOCKHART ET AL.	
	Examiner Sanza L. McClendon	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-9 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1 and 9/04</u> | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1796

DETAILED ACTION

*Election/Restrictions*

1. Claims 14-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions of Groups II and III, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on August 8, 2007.

*Claim Rejections - 35 USC § 102/35 USC § 103*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international

Art Unit: 1796

application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4-9, and 11-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Paulus et al (6,207,744).

Paulus et al sets forth curable polyurethane polymer dispersions. Said polyurethane is a reaction product of A) from 40-80% by weight of at least one polyester acrylate having a OH# from 121 to 300, B) from 0.1 to 20% by weight of a isocyanate reactive compound having at least one polar group, C) from 0.1 to 10% by weight of a diamine, polyamine or mixtures thereof, D) from 0 to 20% by weight of compound other than A-C and E having at least two isocyanate-reactive groups, E) from 0 to 20% by weight of at least one compound having an isocyanate reactive group, and F) 10 to 50% of a polyisocyanate and salts thereof, wherein component D) can be a polycarbonate diol and the polar groups of compound B) can be ionogenic and/or ionic groups which make said polyurethane water dispersible--see column 11, lines 23-28 and column 7, lines 33-45. Component D) appears to read on applicant's component 2) in claims 1 and 7-8, the difference being Paulus et al does not mention the OH number. However, since applicant has not established the criticality of said polycarbonate having this OH number, it is deemed that the disclosed polycarbonate polyol would work equally as well, in the absence of evidence to the contrary and/or unexpected results. Component B) reads on applicant's component 5), component C) reads on applicant's component 7), said component A) reads on applicant's component 1), and said component F) reads on applicant's component 6). Additionally, component E) can be a monohydric polyether polyol which reads on component 4) of claim 1. The ratio of NCO to OH groups can be found in column 12 and is deemed to read the 1.2:1 as instantly claimed. Per examples, Paulus et al teaches reacting the polyurethane, in water, with the diamine/polyamine component C). The ratios

Art Unit: 1796

of claims 4-6 are deemed to encompass the ratio as set forth by Paulus et al (1.2:1). Said polyurethane dispersions are curable ionizing radiation with the addition of a photoinitiator to form a flexible cured coating. Said photoinitiator can be found in columns 13-14, wherein it is disclosed the amount added can be from 0.01 to 20% by weight of the composition. Thus claims 10-12 are read in the reference, the cured coatings of the reference reads on claim 13. Applicant's method claim 14 can be found in example B) in column 17. The product of this example reads on claim 15.

6. Claims 1, 4-9, and 11-15 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maier et al (2003/0162892).

Maier et al sets forth flexible and/or performable coating systems comprising at least one polyurethane dispersions, wherein said coating system is curable by exposure to radiation. Said polyurethane dispersion is obtained by reacting a) 25 to 2500 parts by weight of a polyol (A), b) 50 to 50 parts by weight of a polyisocyanate (B), c) 2 to 50 parts of a polyamine component (C), d) 0 to 100 parts by weight of a solvent component (D), e) 50 to 1500 part by weight of water to give a solvent-free or low-solvent polyurethane dispersion and then further processing this by adding f) if required, 0.5 to 50 parts by weight of a photoinitiator, (E), and .05 to 500 parts by weight if a formulation component (f) to give the end product.

Maier et al sets forth that polyol component (A) comprises a1) 10 to 100 parts by weight of a unsaturated polymeric polyol having one or more double bonds and one or more hydroxyl groups and/or 10 to 100 part by weight of one or more polymeric polyols having one or more hydroxyl groups, examples include polyester polyol (methacrylates as set forth in paragraph section [0088]; a2) 2.5 to 25 parts by weight of a polyol component having two or more hydroxyl groups, wherein polycarbonate polyols are set forth in section [0090]; a3) 2.5 to 25 parts by weight of a anionogenic polyol component having two or more hydroxyl groups and one or more inert carboxyl and/or sulfo groups, as set forth in section [0095], examples include those found in section [0095]. The polyisocyanates can be found in column [0096]. The ratio of the number equivalents of NCO to OH is set forth as from 1.25 to 2.5, preferably 1.4 to 2.0, which appears to encompass and/or be encompassed in at least one of the ratios found in claims 1 and 4-6. Said amines can be found in section [0102] - [0110]. The photoinitiator component f) reads on claims 11-12. The method for obtaining the radiation curable composition comprising the polyurethane dispersion according to Maier et al can be found in the examples and is deemed to read on claim 14, wherein the product reads on claims 13 and 15.

Art Unit: 1796

*Allowable Subject Matter*


7. Claims 2-3 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach the composition of claims 2-3 and 10 in a radiation curable composition as found in claim 1.

*Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2001/0038918 to Weikard et al sets forth polyurethane dispersions and UV curable coating compositions comprising said polyurethane dispersions.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Sanza L. McClendon  
Examiner  
Art Unit 1796

SMC